Translation

PATENT COOPERATION TREATY

PCT/JP2003/007041

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P-43487	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/007041	International filing date (*day/month/year*) 03 June 2003 (03.06.2003)	Priority date (*day/month/year*) 24 October 2002 (24.10.2002)
International Patent Classification (IPC) or national classification and IPC H04B 7/08		
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

   ☒ Box No. I Basis of the report
   ☐ Box No. II Priority
   ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   ☐ Box No. IV Lack of unity of invention
   ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   ☐ Box No. VI Certain documents cited
   ☐ Box No. VII Certain defects in the international application
   ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 12 February 2004 (12.02.2004)	Date of completion of this report 31 August 2004 (31.08.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2003/007041

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No. PCT/JP03/07041

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 11-41196, A (Victor Company of Japan, Ltd.), 12 February, 1999 (12.02.99)
Document 2: JP, 4-222124, A (NEC Corp.), 12 August, 1992 (12.08.92)
Document 3: JP, 7-283768, A (Fujitsu Ltd.), 27 October, 1995 (27.10.95)
Document 4: JP, 2-246428, A (Fujitsu Ltd.), 2 October, 1990 (02.10.90)
Document 5: JP, 2000-36801, A (NEC Corp.), 2 February, 2000 (02.02.00)

Claims 1, 2 and 6

In a communication apparatus with diversity constitution, a common AGC control technique in which the variable amplifiers provided in plural branches are commonly controlled is well known as disclosed in documents 1-4. (Especially, see paragraphs [0030]-[0040] and Figs. 1 and 2 of document 1, and paragraphs [0004]-[0009] and Fig. 6 of document 3. For the other documents, see the full texts. Furthermore, document 1 describes that the diversity communication apparatus of document 1 is a diversity communication apparatus of OFDM system that is the basis of the invention of the present application.)

Also in the techniques of documents 1-4, as in the invention of the present application, the controlled variable of the branch large in input level is used as the controlled variable of the variable amplifiers of respective branches in order to improve the S/N after synthesis. On the other hand, in the techniques of documents 1-4, which branch should be selected for the controlled variable to be used is not judged by comparatively detecting the set gain values of AGC control unlike the invention of the present application.

However, it is only necessary that which branch should be selected for the controlled variable to be used is judged to ensure that the controlled variable of the variable amplifiers of respective branches becomes the same as the controlled variable of the branch large in input level. Whether the judgment is made by comparatively detecting the input levels of respective branches or comparatively detecting the set gain values is a mere matter of design variation that a person skilled in the art could have decided, and the said difference is not considered to be a special matter.

Therefore, the subject matters of claims 1, 2 and 6 do not appear to involve an inventive step, since a person skilled in the art could have easily arrived at them based on the techniques of documents 1-4.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:V.2

Claim 3

Document 2 discloses a common AGC control technique in which in the case where the differences between respective branches in reception level are more than a certain value, the branch smaller in reception level is not used for synthesized output.

Therefore, the subject matter of claim 3 does not appear to involve an inventive step, since a person skilled in the art could have easily arrived at it based on the techniques of documents 1 and 2.

Claims 4 and 5

Selecting or synthesizing each branch output for each carrier in an OFDM communication apparatus with diversity constitution is a matter of usual practice as disclosed, for example, in document 5 (see Fig. 3 for selection and Fig. 2 for synthesis). The restrictive constitution of claim 4 or 5 is not considered to be special.

Therefore, the subject matters of claims 4 and 5 do not appear to involve an inventive step, since a person skilled in the art could have easily arrived at them based on the techniques of documents 1, 2 and 5.